

**Abstract:**

A method and system of assigning DSP resources in a voice gateway which first seeks to assign the calls to DSPs on a best fit basis using information in a best fit (BF) pool. If a call can not be assigned on a BF basis, the call is  
5 assigned to a DSP based on information in a load balancing (LB) pool. The BF pool indicates which DSPs will be completely loaded by calls using various codecs and which DSPs have calls that have a first channel penalty (FCP). The LB pool indicates the number of calls each DSP is handling.

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